

REMARKS:

In the outstanding Office Action, the Examiner noted that claims 1-18 are pending, and that claims 1-18 have been rejected. Claims 1-4, 9-12 and 17 have been amended, and new claim 19 has been added, thus, in view of the forgoing, claims 1-19 remain pending for which reconsideration is requested. No new matter has been added. The Examiner's rejections are traversed below.

REJECTION UNDER 35 U.S.C. §102(e):

Claims 1-2, 4-6, 8-10, 12-14 and 16 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,198,837 ('837). The rejection is traversed and reconsideration is requested.

The Examiner appears to imply that all the features of claim 1 are described in '837 at column 7, lines 29-47 and column 8, lines 27-32. These portions of '837 specifically state:

"Since the digital image data stored in the above manner are stored in the form with the normally inserted orientation in any cases, when a doctor or a X-ray engineer reproduces the digital image data, an image are reproduced with the normally inserted orientation. As a result, when a X-ray film is inserted into the digitizer, it can be inserted without taking a care for the inserted orientation of the X-ray film. Further, the inserting method is usually determined on the condition that the reference line is placed on the left side. However, it become possible to place the reference line on the center line or on the right side. As a result, the inserting position is not a problem on the design of the digitizer. Additionally, it is possible to store only the image information at the normal position from the read region. Incidentally, information used for discriminating the inserted orientation or the inserted orientation is not limited to the image information forming character. Image information indicating bar code information is also used for discriminating the inserted orientation or the inserted orientation."

(column, 7, lines 29-47 of '837)

"When the digital image data are stored, the patient information and photographing information indicating the photographing condition are stored together as the patient relevant information (or header information). As the patient information, the name of the patient, the distinction of sex and the date of birth may be considered. As the photographing information, for example, the photographing date, a photographed section, a photographing condition (voltage, mAs value), and an amount of X-ray may be considered. As information determined in detail, information officially listed in "Standard I, II common to the electronic storage" of the Welfare Ministry may be considered."

(column, 8, lines 27-32 of '837)

As can be seen from the above discussion, these portions of '837 do not discuss "linking
→ of hierarchical attribute information" of an image "in a form of a hierarchy structure including parentage". For the above-discussed reason, the Examiner does not appear to have

established a priori case of anticipation. For this reason it is requested that the rejection be withdrawn.

In particular, '837 discusses a method and apparatus for storing medical image information after an insertion operation or a mounted attitude of a sheet-shaped recording medium containing the medical image is determined to allow determination of orientation of the sheet-shaped recording medium on a reading apparatus.

The present application discloses an image processing method and apparatus, which automatically links hierarchical attribute information associated with an image when attribute information of the image is processed.

As recited in amended claims 1, 2, 4, 9, 10, and 12 of the present application "a plurality of objects are linked in form of a hierarchy structure including a parentage" for generating a hierarchical association between a plurality of objects of an image (see also, FIG. 7 of the present application). The hierarchical relationship generated allows objects belonging to a class of a lower rank of hierarchy to succeed to the resource of objects in a class of an upper rank of hierarchy. Accordingly, the need to individually process objects having hierarchical association is eliminated because operations performed on objects in the upper rank of hierarchy are automatically replicated to objects belonging to a lower rank of hierarchy.

In contrast, the '837 method is limited to determining an inserted orientation of a medical film sheet (see, column 2, lines 32-39 of '837) based on a position of an identification section on an X-ray film (see, column 4, lines 30-49 of '837). The determined inserted orientation is then stored so that when the digital image data of the medical film is reproduced, the image is reproduced with the inserted orientation information (see, column 7, lines 29-33 of '837). The '837 method does not discuss linking objects of an image in a ranked order.

As recited in claims 8, 13, and 14, the hierarchically linked objects of "the image attribute information includes patient information and photographic condition" of the image (see also, page 13, lines 9-13 of the present application). Accordingly, when a processing of the image is performed, the processing of the image is performed on other images to which the image is linked. This eliminates the need to independently process the image with each usage involving the image, thereby providing an efficient management and control of the image.

The '837 system stores photographing information indicating the photographing condition, for example, the photographing date, a photographed section, a photographing

condition, etc. stored together as the patient relevant information or header information (see, column 8, lines 27-39 of '837). The photographing information is used as reference information to be searched by an operator when locating patient relevant information to identify the same and to shorten working hours required for the search (see, column 9, lines 20-27 of '837). Accordingly, unlike the present application, the photographing information is not hierarchically linked to provide efficient processing of the image data by automatically performing processes within associated objects.

Therefore, since '837 is directed to a method for determining an orientation of a film sheet mounted on a reading device based on recognized position of an identification code, '837 does not anticipate the present application's method of maintaining hierarchical relationships including a parentage between a plurality of objects (see, amended claims 1, 2, 4, 9, 10, and 12 of the present application).

REJECTION UNDER 35 U.S.C. § 103 (a):

In the outstanding Office Action, claims 3, 7, 11, and 15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,978,562 ('562). The rejection is traversed and reconsideration is requested.

'562 discusses an image drawing apparatus for informing higher level apparatus of successful deletion of image information designated for deletion by the higher level apparatus.

The Examiner acknowledges that '837 does not teach an object deleting method for deleting existing objects when an object having descendant objects is deleted, thus relies on '562 as providing the same. In '562, an object of a film and a plurality of image objects to be printed on the film are constructed (see, column 4, lines 52-56 of '562). When a print command is received, image information of an object is copied (see column 4, line 66 through column 5, lines 5 of '562), and upon completion of the printing process, the duplicate objects are deleted (column 5, lines 27-30 of '562). This means that objects of an image in '562 are merely duplicated and no arrangement of the objects in ranks is performed. This is unlike the method of "deleting existing objects...when said object deleting means deletes an object having descendant objects" where the plurality of objects are linked in form of a hierarchy structure including parentage (see, claims 3 and 11 of the present application).

Thus, it is respectfully submitted that because '562 does not disclose an image processing method for forming a hierarchical structure of an object, the present application would not have been obvious to one skilled in the art at the time of application.

NEW CLAIM:

New claim 19 has been added to emphasize the image processing method of the present application comprises, "classifying a plurality of objects" of an image "based on a hierarchical structure". The present application then processes the image "based on the hierarchical structure of the classification, where the image succeeds to objects of an upper classification and objects of a lower classification succeed to objects of the image". This eliminates the need to individually process image data because an object of an image linked to another object in a higher hierarchy is subject to all the processing done to the other object.

'837 and '562 do not disclose classification of image objects based on a hierarchy; withdrawal of the rejections is respectfully requested.

CONCLUSION:

In accordance with the foregoing, claims 1-4, 9-12 and 17 have been amended for clarification, and new claim 19 has been added, thus, claims 1-19 are pending and under consideration.

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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Date: May 13 2004

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